

Subject card

Subject name and code	Specialization workshop on aquaculture - field exercises, PG_00075921						
Field of study	Aquaculture – Business And Technology						
Date of commencement of studies	October 2024	Academic year of realisation of subject				2025/2026	
Education level	undergraduate studies		Subject group				
Mode of study	full-time studies		Mode of delivery			at the university	
Year of study	2		Language of instruction			Polish	
Semester of study	4		ECTS credits			2.0	
Learning profile	practical		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Aleksandra Zgrundo				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		5.0		20.0	55
Subject objectives	Familiarizing students with the work related to running and developing the breeding of plants, algae, invertebrates and fish and the equipment used for this purpose. To familiarize students with the specificity of individual types of breeding systems used in aquaculture. Drawing attention to the most important technical, technological, economic and environmental differences.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[AKWAL3-U05] can apply basic statistical methods as well as algorithms and computer techniques to describe phenomena and analyze data that are typical in socio-economic activity based on natural sciences		Conducts observations and performs simple physical measurements/chemical/biological, typical for fields of socio-economic activity based on natural sciences (program content: A, B, C)			[SU3] text preparation/written work [SU8] observation of student's independent or team work	
	[AKWAL3-U01] can plan and perform simple tasks under supervision or independently in the analysis of the aquatic environment, using appropriate methods of description and identification		Performs simple tasks under supervision and independently within the scope analysis of the aquatic environment using appropriate methods of description and identification (program content: A, B, C)			[SU3] text preparation/written work [SU8] observation of student's independent or team work	
Subject contents	A. Plants and algae: Preparing students to carry out work related to establishing, maintaining, developing and running farms algae and cyanobacteria on a laboratory and industrial scale. During the classes, students will set up a culture and scale it to obtain material allowing the extraction of selected chemical compounds. During the workshops, they will also monitor changes taking place in farms using equipment used in industry. The final result of the work will be the acquisition of dried or frozen material ready for industrial use. B. Invertebrates: Preparing students to cultivate invertebrates in laboratory conditions and on an industrial scale natural environment in terms of use to improve environmental quality and for industrial purposes. Students evaluate during classes will be the breeding efficiency depending on the breeding substrate, the depth of foundation of the breeding system and environmental conditions. C. Fish: To familiarize students with the basic breeding techniques used in fish aquaculture (closed and open circuits, RAS, fish farming soot).						
Prerequisites and co-requisites	A. Formal requirements Systematics and basics of biology of breeding organisms. Legal basis of aquaculture. Social and economic aspects of aquaculture. B. Entry requirements Knowledge of biology, ecology and physiology of breeding organisms						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	fish; final paper - project	51.0%	34.0%
	invertebrates; final paper - project	51.0%	33.0%
	algae; final paper - project	51.0%	33.0%
Recommended reading	Basic literature	Used during classes: Plants and algae: publicly available literature on the subject of laboratory and mass cultivation of plants and algae; Invertebrates: literature on the subject in Polish and English in the field of laboratory and industrial invertebrate breeding, ze with particular emphasis on marine species; Fish: generally available literature on fish breeding. Studyed independently by the student	
	Supplementary literature	Used during classes: Plants and algae: publicly available literature on the subject of laboratory and mass cultivation of plants and algae; Invertebrates: literature on the subject in Polish and English in the field of laboratory and industrial invertebrate breeding, ze with particular emphasis on marine species; Fish: generally available literature on fish breeding. Studyed independently by the student	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	fish farming systems in aquaculture		
Work placement	Not applicable		

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